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Terms	Documents
L21 and maltohydrolase	0

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L24

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side by side**Hit Count Set Name**
result set*DB=USPT,DWPI; PLUR=YES; OP=OR*

<u>L24</u>	L21 and maltohydrolase	0	<u>L24</u>
<u>L23</u>	L21 and amylase	0	<u>L23</u>
<u>L22</u>	L21 and amylase	0	<u>L22</u>
<u>L21</u>	9409144	13	<u>L21</u>
<u>L20</u>	L19 and amylase	0	<u>L20</u>
<u>L19</u>	9205259	6	<u>L19</u>
<u>L18</u>	9205259 and amylase	0	<u>L18</u>
<u>L17</u>	L10 and amylase	0	<u>L17</u>

DB=USPT; PLUR=YES; OP=OR

<u>L16</u>	L10 and amylase	0	<u>L16</u>
<u>L15</u>	alpha and glucan adj maltohydrolase	16	<u>L15</u>

DB=DWPI; PLUR=YES; OP=OR

<u>L14</u>	alpha and glucan adj maltohydrolase	0	<u>L14</u>
<u>L13</u>	glucan adj maltohydrolase	0	<u>L13</u>
<u>L12</u>	L10 and maltohydrolase	0	<u>L12</u>
<u>L11</u>	L10 and beta-amylase	0	<u>L11</u>
<u>L10</u>	9428149	3	<u>L10</u>

DB=USPT; PLUR=YES; OP=OR

<u>L9</u>	L8 and beta-amylase	2	<u>L9</u>
<u>L8</u>	5034323	125	<u>L8</u>

DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR

<u>L7</u>	5034323	186	<u>L7</u>
<u>L6</u>	beta-amylase.ab. and potato and DNA	1	<u>L6</u>
<u>L5</u>	beta-amylase.ab. and potato.ab. and DNA	0	<u>L5</u>
<u>L4</u>	beta-amylase.ab. and potato.ab. and cDNA	0	<u>L4</u>
<u>L3</u>	beta-amylase.ab. and potato.ab.	24	<u>L3</u>
<u>L2</u>	beta-amylase and potato.ab.	46	<u>L2</u>
<u>L1</u>	beta-amylase and potato	521	<u>L1</u>

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=> s beta(w)amylase and potato

L1 950 BETA(W) AMYLASE AND POTATO

=> s l1 and DNA

L2 30 L1 AND DNA

=> s l1 and clone

L3 19 L1 AND CLONE

=> uplicate remove l3

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PROCESSING COMPLETED FOR L3

L4 9 DUPLICATE REMOVE L3 (10 DUPLICATES REMOVED)

=> d l4 1-9 ti

L4 ANSWER 1 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1-
TI Downregulation of a chloroplast-targeted ***beta*** - ***amylase***
leads to a starch-excess phenotype in leaves.

L4 ANSWER 2 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Variability in sweetpotato flavor chemistry between production years and
with storage duration.

L4 ANSWER 3 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Mass selection and root yield of true seed populations in sweet
potato .

L4 ANSWER 4 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Sites of ***beta*** - ***amylase*** gene expression in sweet
potato tuberous root: Immunohistochemistry and in situ
hybridization studies.

L4 ANSWER 5 OF 9 AGRICOLA DUPLICATE 2
TI PCR cloning and sequencing of the ***beta*** - ***amylase*** cDNA
from barley.

L4 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2002 ACS
TI Nucleotide sequence of a cDNA ***clone*** encoding ubiquitous .
beta .- ***amylase*** in rye (Secale cereale L.)

L4 ANSWER 7 OF 9 AGRICOLA DUPLICATE 3
TI A nuclear gene encoding ***beta*** - ***amylase*** of sweet
potato .

L4 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2002 ACS
TI Amylolytic activity in stored ***potato*** tubers. 2. The effect of
low-temperature storage on the activities of .alpha.- and . ***beta***
.- ***amylase*** and .alpha.-glucosidase in ***potato*** tubers

L4 ANSWER 9 OF 9 AGRICOLA DUPLICATE 4
TI Molecular cloning and expression in Escherichia coli of cDNA encoding the
subunit of sweet ***potato*** ***beta*** - ***amylase*** .

=> d l4 1-9 ibib ab

L4 ANSWER 1 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
ACCESSION NUMBER: 2002:385228 BIOSIS
DOCUMENT NUMBER: PREV200200385228
TITLE: Downregulation of a chloroplast-targeted ***beta*** -

amylase leads to a starch-excess phenotype in leaves.

AUTHOR(S): Scheidig, Andreas; Frohlich, Anja; Schulze, Silke; Lloyd, James R. (1); Kossmann, Jens

CORPORATE SOURCE: (1) Plant Biology and Biogeochemistry Department, Riso National Laboratory, DK-4000, Roskilde:
james.richard.lloyd@risoe.dk Denmark

SOURCE: Plant Journal, (June, 2002) Vol. 30, No. 5, pp. 581-591.
<http://www.blackwell-science.com/cgilib/jnlpage.bin?Journal=TPJ&File=TPJ&Page=aims.print>.
ISSN: 0960-7412.

DOCUMENT TYPE: Article

LANGUAGE: English

AB A functional screen in Escherichia coli was established to identify ***potato*** genes coding for proteins involved in transitory starch degradation. One ***clone*** isolated had a sequence very similar to a recently described chloroplast-targeted ***beta*** - ***amylase*** of Arabidopsis. Expression of the gene in E. coli showed that the protein product was a functional ***beta*** - ***amylase*** that could degrade both starch granules and solubilized amylopectin, while import experiments demonstrated that the ***beta*** - ***amylase*** was imported and processed into pea chloroplasts. To study the function of the protein in transitory starch degradation, transgenic ***potato*** plants were generated where its activity was reduced using antisense techniques. Analysis of plants reduced in the presence of this ***beta*** - ***amylase*** isoform showed that their leaves had a starch-excess phenotype, indicating a defect in starch degradation. In addition, it was shown that the antisense plants degraded only 8-30% of their total starch, in comparison with 50% in the wild type, over the dark period. This is the first time that a physiological role for a ***beta*** - ***amylase*** in plants has been demonstrated.

L4 ANSWER 2 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2001:407461 BIOSIS

DOCUMENT NUMBER: PREV200100407461

TITLE: Variability in sweetpotato flavor chemistry between production years and with storage duration.

AUTHOR(S): Kays, Stanley J. (1); Wang, Yan (1)

CORPORATE SOURCE: (1) Dept. of Horticulture, The Univ. of Georgia, Athens, GA, 30602-7273 USA

SOURCE: Hortscience, (June, 2001) Vol. 36, No. 3, pp. 525-526.
print.

Meeting Info.: 98th Annual International Conference of the American Society for Horticultural Science Sacramento, California, USA July 21-25, 2001
ISSN: 0018-5345.

DOCUMENT TYPE: Conference

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Four sweetpotato (Ipomoea batatas (L.) Lam.) ***clones*** representing a diverse range in flavor types were analyzed for differences in flavor chemistry due to production year and postharvest storage duration. The

clones tested were GA90-156 (extremely low sugar content), GA90- (nonsweet with an aroma similar to white ***potato***, *Solanum tuberosum* L.) and 2 conventional North American cultivars, 'Jewel' and 'Centennial'. Maltose content, an indication of starch content and hydrolysis potential in baked roots, was the least variable parameter across ***clones*** of the major sugars over 2 production years. Postharvest curing (7 days at 29degreeC, 95% RH) and storage duration (8 2 months at 15 degreeC, 85% RH) had a significant impact on flavor chemistry with significant quantitative variation in sugars and volatile aroma compounds in 'Jewel' and 'Centennial'. Most flavor components of GA90-156 and GA90-16 increased significantly during curing but were relatively stable during storage; neither ***clone*** produced significant maltose during baking. GA90-156 had extremely low levels of the major sugars before and during storage. Curing and storage for 2 months appeared to enhance the activity of ***beta*** - ***amylase***, facilitating starch hydrolysis during baking and the formation of monosaccharides that act as precursors for critical volatile flavor components in 'Jewel' and 'Centennial'. Volatile aroma compounds derived from lipids, beta-carotene and terpenoids decreased with prolonged storage of 'Jewel' and 'Centennial' but did not appear to have a major qualitative impact on the flavor of the four ***clones***. Based upon the relative low organic acid and high sugar contents of the roots, organic acids did not appear to contribute significantly to the cooked flavor of the ***clones*** tested.

L4 ANSWER 3 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 ACCESSION NUMBER: 1998:362739 BIOSIS
 DOCUMENT NUMBER: PREV199800362739
 TITLE: Mass selection and root yield of true seed populations in sweet ***potato***.
 AUTHOR(S): Yoshida, Tomohiko (1)
 CORPORATE SOURCE: (1) Fac. Agric., Kyushu Univ., Fukuoka 812-8581 Japan
 SOURCE: Japanese Journal of Crop Science, (June, 1998) Vol. 67, No. 2, pp. 178-182.
 ISSN: 0011-1848.
 DOCUMENT TYPE: Article
 LANGUAGE: Japanese
 SUMMARY LANGUAGE: Japanese; English
 AB One of the obstructions in sweet ***potato*** cultivation in temperate regions is root storage during winter for the production of vines for the next season. If a homogeneous high yielding true seed population could be developed, vine cuttings obtained from the true seed population could be transplanted in a field, thus eliminating the need for root storage. Mass selections of true seed populations were attempted to develop a high-yield and high-quality true seed population. Selection for root skin color, germination at low temperature, vine diameter and taproot diameter were effective, and a genetic gain was observed for these characteristics. Root yield obtained by transplanting vines grown from true seed population was 70 aprx 78% compared to conventionally cultured control. A ***beta*** - ***amylase*** null population, which can be used for staple food and industrial purposes, was developed. The yield of true seeds by open-pollinating among ***clones*** with open field flowering was 144 seeds per ml. True seed populations with good agronomic characteristics could be used as breeding materials including overseas germplasm exchange and for an emergency crop by harvesting a large amount of true seeds, which can be stored at room temperature for a long period.

L4 ANSWER 4 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 ACCESSION NUMBER: 1997:419979 BIOSIS
 DOCUMENT NUMBER: PREV199799719182
 TITLE: Sites of ***beta*** - ***amylase*** gene expression
 in sweet ***potato*** tuberous root:
 Immunohistochemistry and in situ hybridization studies.
 AUTHOR(S): Ling, Thai-Yen; Chou, Wen-Ling; Lee, Ping-Du; Su,
 Jong-Ching
 CORPORATE SOURCE: Dep. Agric. Chem., National Taiwan Univ., Taipei 10764
 Taiwan
 SOURCE: FASEB Journal, (1997) Vol. 11, No. 9, pp. A978.
 Meeting Info.: 17th International Congress of Biochemistry
 and Molecular Biology in conjunction with the Annual
 Meeting of the American Society for Biochemistry and
 Molecular Biology San Francisco, California, USA August
 24-29, 1997
 ISSN: 0892-6638.
 DOCUMENT TYPE: Conference; Abstract
 LANGUAGE: English

L4 ANSWER 5 OF 9 AGRICOLA DUPLICATE 2
 ACCESSION NUMBER: 94:69210 AGRICOLA
 DOCUMENT NUMBER: IND20416667
 TITLE: PCR cloning and sequencing of the ***beta*** -
 amylase cDNA from barley.
 AUTHOR(S): Yoshigi, N.; Okada, Y.; Sahara, H.; Koshino, S.
 AVAILABILITY: DNAL (385 J822)
 SOURCE: The Journal of biochemistry, Jan 1994. Vol. 115, No.
 1. p. 47-51
 Publisher: Tokyo : Japanese Biochemical Society.
 CODEN: JOBIAO; ISSN: 0021-924X
 Includes references
 NOTE:
 PUB. COUNTRY: Japan
 DOCUMENT TYPE: Article
 FILE SEGMENT: Non-U.S. Imprint other than FAO
 LANGUAGE: English

AB Polymerase chain reaction (PCR) amplification of mRNA from developing
 barley (cultivar Haruna two-rows) endosperm was used to ***clone***
 and sequence full-length cDNA encoding ***beta*** - ***amylase*** .
 The ***beta*** - ***amylase*** cDNA was 1,775 bp in length. The
 beta - ***amylase*** was deduced to be composed of 535 amino
 acid residues and its molecular weight was calculated to be 59,610. Kreis
 et al. reported that the ***beta*** - ***amylase*** cDNA from barley
 (cultivar Hiproly) was 1,754 bp in length and coded for a polypeptide of
 535 amino acids [Eur. J. Biochem. (1987) 169,517- 525]. A comparison of
 the 3-amylase sequences from Haruna two-rows and Hiproly barleys revealed
 nine differences in the nucleotide sequence which resulted in three
 changes in the amino acid residues and 21 additional nucleotides at its
 3'-end in the cultivar Haruna two-rows. The three changes were as
 follows: Ala-233, Ser-347, Met-527 (Haruna two-rows) and Val-233, Met-347,
 Ile-527 (Hiproly). Lundgard and Svensson pointed out that 23 amino acid
 residues of the peptide fragment derived from the COOH-terminal region of
 barley (cultivar Gula) ***beta*** - ***amylase*** were in agreement
 with the deduced amino acid sequence reported by Kreis et al., with the
 exception of a single position (Met-527 compared to Ile) [Carlsberg Res.
 Commun. (1986) 51, 487-491]. Our findings described above showed Met-527

is reasonable. In the cases of 6-amylases from soybean and sweet
potato , the positions that corresponded to those at 233 and 347
in
the amino acid sequence of ***beta*** - ***amylase*** from barley
were Ala and Ser, respectively. Therefore, Ala-233 and Ser-347 in the
amino acid sequence of barley ***beta*** - ***amylase*** were
thought to be reasonable. Sequence homology of barley ***beta*** -
amylase with the enzymes from soybean and sweet ***potato***
amounted to 66.7 and 59.2%, respectively.

L4 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1994:26272 CAPLUS
DOCUMENT NUMBER: 120:26272
TITLE: Nucleotide sequence of a cDNA ***clone*** encoding
ubiquitous . ***beta*** .- ***amylase*** in rye
(Secale cereale L.)
AUTHOR(S): Sadowski, Jan; Rorat, Tadeusz; Cooke, Richard;
Delseny, Michel
CORPORATE SOURCE: Inst. Plant Genet., Pol. Acad. Sci., Poznan, 60-479,
Pol.
SOURCE: Plant Physiology (1993), 102(1), 315-16
CODEN: PLPHAY; ISSN: 0032-0889
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This report presents the sequence of a full-length cDNA encoding the
ubiquitous . ***beta*** .- ***amylase*** of rye, which is the first
published for monocotyledonous plants. It contains 1879 bp and a single
open reading frame encoding a polypeptide of 503 amino acids. The mol.
mass of the polypeptide estd. from the deduced amino acid sequence is
56,700 D. Comparison with other . ***beta*** .- ***amylase***
sequences shows 77% homol. with the partial rye endosperm-specific .
beta .- ***amylase*** , 81% with the endosperm-specific form
from
barley, 72% with that of soybean, 63% with that of Arabidopsis thaliana
leaves, and 62% with that of sweet ***potato*** tuber. It has
recently been shown that ubiquitous . ***beta*** .- ***amylase*** (no
C-terminal repeat region) of wheat and rye does undergo limited
proteolysis involved in conversion to the latent form during seed
germination. It is probable that ubiquitous and endosperm-specific .
beta .- ***amylases*** play different physiol. roles during
seed
development and germination.

L4 ANSWER 7 OF 9 AGRICOLA

DUPLICATE 3

ACCESSION NUMBER: 93:5765 AGRICOLA
DOCUMENT NUMBER: IND92075489
TITLE: A nuclear gene encoding ***beta*** - ***amylase***
of sweet ***potato*** .
AUTHOR(S): Yoshida, N.; Hayashi, K.; Nakamura, K.
CORPORATE SOURCE: Nagoya University, Nagoya, Japan
AVAILABILITY: DNAL (QH442.A1G4)
SOURCE: Gene, 1992. Vol. 120, No. 2. p. 255-259
Publisher: Amsterdam : Elsevier Science Publishers.
CODEN: GENED6; ISSN: 0378-1119
NOTE: Includes references.
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO

LANGUAGE: English

AB A nuclear AmyB gene from sweet ***potato*** encoding ***beta*** -
amylase (beta Amy) that is abundant in tuberous roots and
inducible in other organs by an exogenous supply of sucrose or
polygalacturonic acid, was isolated and characterized. Genomic Southern
blot hybridization, restriction maps of independently isolated phage A
genomic ***clones***, and the nucleotide sequence of AmyB compared
with that of the cDNA, all suggested that beta Amy of sweet ***potato***
is encoded by a gene that is present in a single copy per haploid genome.
In the sequence of AmyB, the sequence that is identical to that of the
cDNA was split into seven exons by six introns. and the transcription of
this gene starts from multiple sites 26 to 30 bp downstream from a
potential TATA-box sequence, 5'-TATATAA. In the 5'-upstream region of
AmyB, there are sequences homologous to those conserved in the 5'-upstream
regions of genes encoding sporamin, which are regulated similarly to AmyB.
The 5'-upstream region of AmyB also contains sequences to which several
previously known plant nuclear factors bind.

L4 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1992:425001 CAPLUS

DOCUMENT NUMBER: 117:25001

TITLE: Amylolytic activity in stored ***potato*** tubers.
2. The effect of low-temperature storage on the
activities of .alpha.- and . ***beta*** .-
amylase and .alpha.-glucosidase in
potato tubers

AUTHOR(S): Cochrane, M. Patricia; Duffus, Carol M.; Allison, M.
J.; Mackay, G. R.

CORPORATE SOURCE: Edinburgh Sch. Agric., Edinburgh, EH9 3JG, UK

SOURCE: Potato Research (1991), 34(4), 333-41

CODEN: PORHBW; ISSN: 0014-3065

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Tubers of the ***potato*** cultivars Record, Wilja, Pentland Dell and
Brodick (formerly ***clone*** 137371) were sampled before and after
storage at either 4.degree. or 10.degree.. Reducing sugar content stayed
const. during storage at 10.degree. in all four cultivars but rose greatly
during the first 6-12 wk of storage at 4.degree. in Record, Wilja and
Pentland Dell but not in Brodick. Amylolytic activity was detd. after 5
wk storage using blocked p-nitrophenyl maltoheptaoside as substrate for
.alpha.-amylase, p-nitrophenyl maltopentaoside as substrate for .
beta .- ***amylase***, and p-nitrophenylglucopyranoside as
substrate for .alpha.-glucosidase. The values obtained from tubers stored
at 4.degree. were higher than those from tubers stored at 10.degree., the
differences being much less in Brodick than in the other three cultivars.

L4 ANSWER 9 OF 9 AGRICOLA

DUPLICATE 4

ACCESSION NUMBER: 92:52804 AGRICOLA

DOCUMENT NUMBER: IND92027835

TITLE: Molecular cloning and expression in Escherichia coli
of cDNA encoding the subunit of sweet ***potato***
beta - ***amylase*** .

AUTHOR(S): Yoshida, N.; Nakamura, K.

CORPORATE SOURCE: Mitsui Petrochemical Industries, Ltd., Waki-cho,
Kuga-gun, Yamaguchi

AVAILABILITY: DNAL (385 J822)

SOURCE: Journal of biochemistry, Aug 1991. Vol. 110, No. 2. p.

196-201

Publisher: Tokyo : Japanese Biochemical Society.

CODEN: JOBIAO; ISSN: 0021-924X

NOTE:

Includes references.

DOCUMENT TYPE:

Article

FILE SEGMENT:

Non-U.S. Imprint other than FAO

LANGUAGE:

English

AB Tuberous roots of the sweet ***potato*** are unusually rich in ***beta*** - ***amylase***, and the ***beta*** - ***amylase*** polypeptides account for about 5% of the total soluble protein of the organ. Unlike ***beta*** - ***amylases*** from other origins, the sweet ***potato*** ***beta*** - ***amylase*** is a tetramer of identical subunits, and it also bears starch phosphorylase-inhibitor activity. A cDNA for the subunit of sweet ***potato*** ***beta*** - ***amylase*** was obtained by immunological screening of an expression cDNA library constructed by the vector-primer and linker method using a plasmid vector containing tac-SP6 promoters. The SP6 transcript of a 2,000 base-pair-long cDNA insert directed the synthesis in vitro of a precursor to the subunit of ***beta*** - ***amylase*** which was identical in size with the mature subunit, and the ***beta*** - ***amylase*** mRNA detected by Northern blot hybridization was identical in size with the SP6 transcript of the cDNA insert. The cDNA insert contained 1,494 base pairs of an open reading frame which codes for the 499-amino-acid-long precursor to the subunit of ***beta*** - ***amylase***. An amino acid sequence identical to the N-terminal amino acid sequence of the mature subunit appeared immediately after the initiator methionine of the precursor, indicating that the subunit of ***beta*** - ***amylase*** is synthesized as a mature form.

Comparison

of the amino acid sequences of subunits of sweet ***potato*** ***beta*** - ***amylase*** and seed ***beta*** - ***amylases*** from barley and soybean indicated that these enzymes share about 68% amino acid identities among each other. Escherichia coli cells harboring the cDNA ***clone*** produced the mature-sized subunit of the ***beta*** - ***amylase***, and the soluble extract exhibited amylolytic activity which migrated to the same position as the ***beta*** - ***amylase*** purified from the sweet ***potato*** in non-denaturing polyacrylamide gel containing soluble starch indicating that oligomerization of the subunit occurred properly in E. coli cells.

=> duplicate remove 12

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KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):y

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PROCESSING COMPLETED FOR L2

L5 18 DUPLICATE REMOVE L2 AGRICOLA (12 DUPLICATES REMOVED)

=> s l5 and transform?

L6 3 L5 AND TRANSFORM?

=> d l6 1-3 ibib ab

L6 ANSWER 1 OF 3 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1997:419979 BIOSIS

DOCUMENT NUMBER: PREV199799719182

TITLE: Sites of ***beta*** - ***amylase*** gene expression
in sweet ***potato*** tuberous root:
Immunohistochemistry and in situ hybridization studies.

AUTHOR(S): Ling, Thai-Yen; Chou, Wen-Ling; Lee, Ping-Du; Su,
Jong-Ching

CORPORATE SOURCE: Dep. Agric. Chem., National Taiwan Univ., Taipei 10764
Taiwan

SOURCE: FASEB Journal, (1997) Vol. 11, No. 9, pp. A978.
Meeting Info.: 17th International Congress of Biochemistry
and Molecular Biology in conjunction with the Annual
Meeting of the American Society for Biochemistry and
Molecular Biology San Francisco, California, USA August
24-29, 1997
ISSN: 0892-6638.

DOCUMENT TYPE: Conference; Abstract

LANGUAGE: English

L6 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:145000 CAPLUS

DOCUMENT NUMBER: 132:190524

TITLE: A novel plastid-targeting nucleic acid sequence, a
novel . ***beta*** .- ***amylase*** sequence, and
a stimulus-responsive promoter from Arabidopsis
thaliana

INVENTOR(S): Kavanagh, Thomas Anthony; Lao, Nga Thi

PATENT ASSIGNEE(S): Advanced Technologies (Cambridge) Limited, UK

SOURCE: PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000011144	A2	20000302	WO 1999-GB2697	19990813
WO 2000011144	A3	20000908		

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CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2336249	AA	20000302	CA 1999-2336249	19990813
AU 9954326	A1	20000314	AU 1999-54326	19990813
EP 1105468	A2	20010613	EP 1999-940330	19990813
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 9914299	A	20011127	BR 1999-14299	19990813
JP 2002523040	T2	20020730	JP 2000-566401	19990813
US 6489540	B1	20021203	US 1999-375140	19990816
PRIORITY APPLN. INFO.:			GB 1998-17959	A 19980819
			GB 1998-17963	A 19980819
			GB 1999-13014	A 19990605
			WO 1999-GB2697	W 19990813

AB The invention provides a novel chloroplast-targeted novel . ***beta*** .- ***amylase*** sequence (ct . ***beta*** .- ***amylase***), a novel chloroplast targeting nucleic acid sequence, and a novel . ***beta*** .- ***amylase*** -encoding nucleic acid sequence from Arabidopsis thaliana. There is also disclosed an inducible promoter which is independently stimulated by light or sugar stimulus. Methods of ***transforming*** plants using these sequences are described, as well as ***transformed*** plant cells, ***transformed*** plants and seed thereof, as well as chimeric genes contg. the sequences. Modification of starch levels in plants can be achieved, as well as the targeting of genes from the starch biosynthetic or degradative pathways, disease or pest resistance or variation of gene expression due to stimulus are described.

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:753351 CAPLUS
DOCUMENT NUMBER: 132:946
TITLE: Transgene identification in transgenic seeds using screenable markers linked to aleurone-specific promoters
INVENTOR(S): Kriz, Alan L.; Spencer, T. Michael
PATENT ASSIGNEE(S): Dekalb Genetics Corporation, USA
SOURCE: PCT Int. Appl., 177 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9960129	A1	19991125	WO 1999-US11023	19990518
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6307123	B1	20011023	US 1998-80625	19980518
AU 9939053	A1	19991206	AU 1999-39053	19990518
US 6433252	B1	20020813	US 2000-695782	20001024
PRIORITY APPLN. INFO.:			US 1998-80625	A2 19980518

AB The present invention provides methods and compns. for the identification of transgenic seeds. This is accomplished by use of screenable markers linked to aleurone-specific promoters. In particular embodiments of the invention, the screenable marker gene is selected from the group consisting of a green fluorescent protein gene, a luciferase gene, and an R gene; the selectable marker gene comprises a gene selected from the group consisting of neomycin phosphotransferase II, bar, EPSPS, anthranilate synthase, and dalapon dehalogenase; and the aleurone-specific promoter comprises the L3 oleosin promoter. The screenable markers can be provided as gene fusions with selectable markers, allowing both selection and screening of ***transformants***. The use of aleurone-specific promoters, which also direct expression in embryogenic tissues, allows efficient selection of transgenic cells and the screening of viable transgenic seeds, while avoiding the deleterious effects assocd. with constitutive expression of screenable marker genes. Screening of transgenic seeds avoids the need for growing and assaying of seeds for transgenes and allows implementation of automated seed screening techniques for the identification of transgenic seeds.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	48.15	48.36
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-2.48	-2.48

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FILE CONTAINS CURRENT INFORMATION.
 LAST RELOADED: Dec 20, 2002 (20021220/UP).

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	1.86	50.22
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL

NEWS EXPRESS October 14 CURRENT WINDOWS VERSION IS V6.01,
 CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
 AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
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FILE 'HOME' ENTERED AT 15:11:31 ON 22 DEC 2002

=> file agricola biosis embase caplus

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'AGRICOLA' ENTERED AT 15:11:46 ON 22 DEC 2002

FILE 'BIOSIS' ENTERED AT 15:11:46 ON 22 DEC 2002

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FILE 'EMBASE' ENTERED AT 15:11:46 ON 22 DEC 2002

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FILE 'CAPLUS' ENTERED AT 15:11:46 ON 22 DEC 2002

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=> s glucosidase and plant and potato and transform?

L1 7 GLUCOSIDASE AND PLANT AND POTATO AND TRANSFORM?

=> duplicate remove l1

DUPLICATE PREFERENCE IS 'EMBASE, CAPLUS'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n

PROCESSING COMPLETED FOR L1

L2 7 DUPLICATE REMOVE L1 (0 DUPLICATES REMOVED)

=> d l2 1-7

L2 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2002 ACS

AN 2002:408816 CAPLUS

DN 136:397057
 TI Phosphoribosylformylglycinamidine synthase and other soybean genes
 up-regulated during nematode infection and their use in preparing
 transformed nematode-resistant ***plants***
 IN MacKenzie, Sally A.; Baghchhipawala, Zarir; Bassuner, Ronald
 PA The Board of Regents of the University of Nebraska, USA
 SO PCT Int. Appl., 94 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002042478	A2	20020530	WO 2001-US44054	20011120
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	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
	GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
	LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
	PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA,				
	UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,				
	CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,				
	BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002039333	A5	20020603	AU 2002-39333	20011120
PRAI	US 2000-252214P	P	20001121		
	WO 2001-US44054	W	20011120		

L2 ANSWER 2 OF 7 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
 AN 2001193245 EMBASE
 TI Sense- and antisense-mediated gene silencing in tobacco is inhibited by
 the same viral suppressors and is associated with accumulation of small
 RNAs.
 AU Di Serio F.; Schob H.; Iglesias A.; Tarina C.; Bouldoires E.; Meins F. Jr.
 CS F. Meins Jr., Friedrich Miescher Institute, Novartis Research Foundation,
 Maulbeerstrasse 66, CH-4058 Basel, Switzerland. meins@fmi.ch
 SO Proceedings of the National Academy of Sciences of the United States of
 America, (22 May 2001) 98/11 (6506-6510).
 Refs: 46
 ISSN: 0027-8424 CODEN: PNASA6
 CY United States
 DT Journal; Article
 FS 029 Clinical Biochemistry
 LA English
 SL English

L2 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2002 ACS
 AN 2001:422799 CAPLUS
 DN 135:208164
 TI Copy-DNA cloning and characterization of a ***potato*** .alpha.-
 glucosidase : expression in Escherichia coli and effects of
 down-regulation in transgenic ***potato***
 AU Taylor, Mark A.; Ross, Heather A.; McRae, Diane; Wright, Frank; Viola,
 Roberto; Davies, Howard V.
 CS Unit of Plant Biochemistry, Scottish Crop Research Institute, Dundee,
 Invergowrie, DD2 5DA, UK
 SO Planta (2001), 213(2), 258-264
 CODEN: PLANAB; ISSN: 0032-0935

PB Springer-Verlag
DT Journal
LA English

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2002 ACS
AN 2000:145000 CAPLUS
DN 132:190524
TI A novel plastid-targeting nucleic acid sequence, a novel .beta.-amylase
sequence, and a stimulus-responsive promoter from Arabidopsis thaliana
IN Kavanagh, Thomas Anthony; Lao, Nga Thi
PA Advanced Technologies (Cambridge) Limited, UK
SO PCT Int. Appl., 74 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2000011144	A2	20000302	WO 1999-GB2697	19990813
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	CA 2336249	AA	20000302	CA 1999-2336249	19990813
	AU 9954326	A1	20000314	AU 1999-54326	19990813
	EP 1105468	A2	20010613	EP 1999-940330	19990813
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 9914299	A	20011127	BR 1999-14299	19990813
	JP 2002523040	T2	20020730	JP 2000-566401	19990813
	US 6489540	B1	20021203	US 1999-375140	19990816
PRAI	GB 1998-17959	A	19980819		
	GB 1998-17963	A	19980819		
	GB 1999-13014	A	19990605		
	WO 1999-GB2697	W	19990813		

L2 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2002 ACS
AN 1999:753351 CAPLUS
DN 132:946
TI Transgene identification in transgenic seeds using screenable markers
linked to aleurone-specific promoters
IN Kriz, Alan L.; Spencer, T. Michael
PA Dekalb Genetics Corporation, USA
SO PCT Int. Appl., 177 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 9960129 A1 19991125 WO 1999-US11023 19990518
 W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 US 6307123 B1 20011023 US 1998-80625 19980518
 AU 9939053 A1 19991206 AU 1999-39053 19990518
 US 6433252 B1 20020813 US 2000-695782 20001024
 PRAI US 1998-80625 A2 19980518
 WO 1999-US11023 W 19990518
 RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2002 ACS
 AN 1997:532524 CAPLUS
 DN 127:145926
 TI ***Potato*** .alpha.- ***glucosidase*** cDNA sequence, antisense sequences, recombinant enzyme, and genetic engineering ***plants*** with modified starch breakdown
 IN Taylor, Mark Andrew; Davies, Howard Vivian
 PA Nickerson Biocem Limited, UK; Taylor, Mark Andrew; Davies, Howard Vivian
 SO PCT Int. Appl., 39 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9724448	A1	19970710	WO 1996-GB3239	19961224
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	AU 9712044	A1	19970728	AU 1997-12044	19961224
PRAI	GB 1995-26613		19951228		
	WO 1996-GB3239		19961224		

L2 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2002 ACS
 AN 1997:390695 CAPLUS
 DN 127:1647
 TI Glucan production by ***plants*** modulation by maltooligosaccharides, ***plant*** granule-bound starch synthase I in glucan production, and genetic engineering to regulate maltooligosaccharide content
 IN Smith, Alison Mary; Denyer, Kay
 PA John Innes Centre Innovations Limited, UK; Smith, Alison Mary; Denyer, Kay
 SO PCT Int. Appl., 85 pp.
 CODEN: PIXXD2
 DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9716554	A1	19970509	WO 1996-GB2696	19961104
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	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG			
	AU 9673239	A1	19970522	AU 1996-73239	19961104
	AU 720418	B2	20000601		
	EP 871744	A1	19981021	EP 1996-935165	19961104
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI			
	JP 11514521	T2	19991214	JP 1997-517171	19961104
PRAI	GB 1995-22589	A	19951103		
	WO 1996-GB2696	W	19961104		

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
17.16	17.37

FULL ESTIMATED COST

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LAST RELOADED: Dec 20, 2002 (20021220/UP).

=> s l2 and amylase

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=> file agricola biosis embase caplus

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
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FULL ESTIMATED COST

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=> s 12 and amylase
L3 3 L2 AND AMYLASE

=> d 13 1-3

L3 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS
AN 2000:145000 CAPLUS
DN 132:190524
TI A novel plastid-targeting nucleic acid sequence, a novel .beta.-
amylase sequence, and a stimulus-responsive promoter from
Arabidopsis thaliana
IN Kavanagh, Thomas Anthony; Lao, Nga Thi
PA Advanced Technologies (Cambridge) Limited, UK
SO PCT Int. Appl., 74 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000011144	A2	20000302	WO 1999-GB2697	19990813
	WO 2000011144	A3	20000908		
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	AU 9954326	A1	20000314	AU 1999-54326	19990813
	EP 1105468	A2	20010613	EP 1999-940330	19990813
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
	BR 9914299	A	20011127	BR 1999-14299	19990813
	JP 2002523040	T2	20020730	JP 2000-566401	19990813
	US 6489540	B1	20021203	US 1999-375140	19990816
PRAI	GB 1998-17959	A	19980819		
	GB 1998-17963	A	19980819		
	GB 1999-13014	A	19990605		
	WO 1999-GB2697	W	19990813		

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS
AN 1999:753351 CAPLUS
DN 132:946
TI Transgene identification in transgenic seeds using screenable markers
linked to aleurone-specific promoters
IN Kriz, Alan L.; Spencer, T. Michael
PA Dekalb Genetics Corporation, USA
SO PCT Int. Appl., 177 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI    WO 9960129      A1    19991125      WO 1999-US11023  19990518
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          MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
          TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ,
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          CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
      US 6307123      B1    20011023      US 1998-80625      19980518
      AU 9939053      A1    19991206      AU 1999-39053      19990518
      US 6433252      B1    20020813      US 2000-695782     20001024
PRAI  US 1998-80625      A2    19980518
      WO 1999-US11023  W     19990518
RE.CNT 8      THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
          ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L3    ANSWER 3 OF 3  CAPLUS  COPYRIGHT 2002 ACS
AN    1997:390695  CAPLUS
DN    127:1647
TI    Glucan production by ***plants*** modulation by maltooligosaccharides,
      ***plant*** granule-bound starch synthase I in glucan production, and
      genetic engineering to regulate maltooligosaccharide content
IN    Smith, Alison Mary; Denyer, Kay
PA    John Innes Centre Innovations Limited, UK; Smith, Alison Mary; Denyer, Kay
SO    PCT Int. Appl., 85 pp.
      CODEN: PIXXD2
DT    Patent
LA    English
FAN.CNT 1

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	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	W:		AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
	RW:		KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG		
	AU 9673239	A1	19970522	AU 1996-73239	19961104
	AU 720418	B2	20000601		
	EP 871744	A1	19981021	EP 1996-935165	19961104
	R:		AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI		
	JP 11514521	T2	19991214	JP 1997-517171	19961104
PRAI	GB 1995-22589	A	19951103		
	WO 1996-GB2696	W	19961104		

<-----User Break----->

=> FIL STNGUIDE

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

13.13

30.80

FILE 'STNGUIDE' ENTERED AT 15:25:05 ON 22 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Dec 20, 2002 (20021220/UP).

=> d 13 3 ab
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS' - CONTINUE? (Y)/N:y

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS
AB The prodn. of .alpha.-glucan (e.g. starch) by ***plant*** cells is
modulated by maltooligosaccharide content in the cells. The ***plant***
granule bound starch synthase I (GBSSI) activity is regulated by
maltooligosaccharides thus modulating the prodn. of unbranched
.alpha.-glucan, such as amylose, and branched .alpha.-glucan, such as
amylopectin. Maltooligosaccharide content of cells can be regulated by
transforming ***plant*** cells with microbial .alpha.-
glucosidase genes for example. ***Potato*** or pea
plant glucan content can thus be genetically engineered.

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	1.62	34.39
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-0.62

STN INTERNATIONAL LOGOFF AT 15:44:01 ON 22 DEC 2002